

Date: Fri, 18 Jun 93 07:00:27 PDT
From: Info-Hams Mailing List and Newsgroup <info-hams@ucsd.edu>
Errors-To: Info-Hams-Errors@UCSD.Edu
Reply-To: Info-Hams@UCSD.Edu
Precedence: Bulk
Subject: Info-Hams Digest V93 #747
To: Info-Hams

Info-Hams Digest Fri, 18 Jun 93 Volume 93 : Issue 747

Today's Topics:

 .. or the ICOM IC-P2AT?
 6M multi-hop Es to the US
 callsign server update
 HF USED RIG SURVEY
 SB200 power supply problems - help please.
 Summary: Making home Ham Friendly
 Wanted:Freq.mod. for YAESU 411E

Send Replies or notes for publication to: <Info-Hams@UCSD.Edu>
Send subscription requests to: <Info-Hams-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Info-Hams Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/info-hams".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Fri, 18 Jun 93 11:26:34 GMT
From: pipex!sunic!aun.uninett.no!trane.uninett.no!alf.uib.no!due!
yngve@uunet.uu.net
Subject: .. or the ICOM IC-P2AT?
To: info-hams@ucsd.edu

How about the ICOM IC-P2AT? I cannot find any mod for this ham either. As for
the previous, I am looking for a freq.mod. that enables the transceiver to
transmit in its entire frequency band, from app. 130-174 Mhz, according to my
friends. If you know or know about this mod., please answer to this newsgroup
or directly to me. I will reward you with a nice thought.

yngve@ii.uib.no

-Yngve Dyvik , Department of Informatics - University of Bergen, Norway

Date: 18 Jun 93 00:01:49 GMT
From: olivea!gossip.pyramid.com!pyramid!infmx!moose!randall@uunet.uu.net
Subject: 6M multi-hop Es to the US
To: info-hams@ucsd.edu

fred-mckenzie@ksc.nasa.gov (Fred McKenzie) writes:

>Can any of you experienced 6 Meter operators give me some advice?

Here is some general information about 6 meters that I gathered from various sources, including personal experience. Additions, corrections, etc. are welcome.

THE SIX METER AMATEUR RADIO BAND FREQUENTLY ASKED QUESTIONS

WHAT IS THE SIX-METER BAND? The 6 meter band is a portion of the RF spectrum allocated to amateur radio. The band usually behaves like a VHF band similar to 2 meters. During one of the rare F2 openings, propagation is more like an HF band such as 10 meters. Just about all types of propagation pop up on 6m at one time or another, which makes the band fascinating to hams. 6m is an acquired taste: a few hams work the band regularly, but most hams never work it at all.

WHAT ARE THE FREQUENCIES? In the U.S. and some other countries, the six-meter amateur radio band lies between 50 and 54 MHz, just below TV channel 2 in the U.S. In some other countries, 6m is allocated much less bandwidth. The U.K. has only 50.0 to 50.1, and New Zealand's band starts at 51.0. Check your allocations for your particular country.

WAS 6M ONCE TV CHANNEL ONE? Televisions in the U.S. start at channel 2. Some ham books say that 6m was once channel 1. This is not true. Just after WWII, Channel 1 in the U.S. was allocated 44 to 50 MHz. By 1948, interference from police radios and hams made channel 1 nearly unusable. Early TV sets had little or no RF shielding. The ARRL recommended that channel 2 (54-60 MHz) be eliminated, but the FCC decided to axe channel 1 instead.

IS FM USED ON 6M? Yes, but not that often in most areas. Most 6m enthusiasts use only SSB and sometimes CW. The main FM simplex frequency is 52.525 MHz. There are a few 6m repeaters listed in the ARRL Repeater Directory. Your range is better on 6m than it is on 2m with the same

power a similar antenna.

HOW DO I KNOW IF THERE IS AN OPENING? Of course, the best way is to check for an opening is to listen to 6m, especially for the beacons that are listed in the ARRL Repeater Directory. Monitor 50.110 and 50.125 for SSB openings. You can also monitor 28.885 MHz, where hams report VHF openings.

WHAT ARE THE MOST POPULAR FREQUENCIES? Per the FCC, 50.0 to 50.1 is reserved for CW work in the U.S. Most operation is SSB. 50.100 is the most popular SSB DX frequency, and 50.100 to 50.124 should be used only for DX. 50.125 is the U.S. domestic calling frequency, and most domestic SSB is found between 50.125 and 50.200. Only during hot F2 openings do you find SSB above 50.200.

DO I NEED A BEAM ANTENNA? If you want to work DX, yes. You can have fun with a vertical during openings, but the pros use beams. Everyone is horizontally polarized, but cross-polarization doesn't matter for Es, F2, or Aurora. A few stations use 3-element beams, but a 4 or 5 element beam is so small that a LOT of people use them. Quite a few people have Cushcraft 6-element "Boomers". There are a few other big beams, and the lunatic fringe stacks them. For example, K6QXY has a stack of 4 six-meter beams, each with a 50ft (15m) boom. The higher the tower the better! RG8 or RG213 is plenty good enough cable for most people. Antenna-mounted preamps are never needed.

IS 6M NOISY? External noise is fairly high at 50 MHz. It overrides the front-end noise figure on about all the rigs on the market today unless you have a LOT of cable loss or a VERY quiet location.

CAN I RUN RADIO-CONTROLLED EQUIPMENT USING 6M? This is legal in the U.S. for licensed hams.

WHAT ARE "GRID SQUARES"? On VHF and up bands, the world has been divided in 1-degree lat x 2-degree long "squares" which start at the south pole and date line and "read right up". SSB stations will always identify their grid square along with their call sign, e.g. "KK6MY DM87". Each square is also divided into sub-squares. European stations like the subsquares; most US stations don't even know their own. In any case, the "squares" and their VUCC awards have been a wonderful interest builder, and have kept the QSL printers in business! Check the ARRL Operating Manual for a map of the grid squares.

WHAT RIGS ARE USED? Probably 50% of the active stations have 80

to 150 W output, either from old Icom 551D s (the 551 is 10W), or from solid-state (brick) amplifiers following the many types of 10W rigs. The Icom 575H is very popular. Perhaps 40% of the stations run just 10 to 20 W, but most of them either get an amplifier or drop out after a year or so. The remaining 10% have tube rigs such as the Drake TR-6. Swan and Heathkit tube rigs should generally be avoided, as they are too drift. The kilowatt is quite rare on six. The norm for "serious" stations is the 150W amplifier.

CAN I USE A TRANSVERTER WITH AN HF RIG TO GET ON 6M? Yes, but you will either spend a lot of time tinkering with a soldering iron, or you will spend a lot of money on the high-end transverters from SSB Electronics. An SSB Electronics 6m transverter fully equipped will run you \$800, but may outperform most of the VHF all-mode rigs. Some hams build transverters, but you need a good level of electronics expertise.

I LISTEN TO 6M OCCASIONALLY, BUT I NEVER HEAR ANYONE. Openings on 6m are rare, especially during low points in the sunspot cycle. For hams in Northern latitudes, openings occur most commonly due to aurora. The most common openings in middle and southern latitudes are a result of sporadic E (Es), which occurs most often in June. F2 openings occur only when the solar flux is high. An explanation of the many types of propagation on 6m follows.

HOW OFTEN ARE THERE F2 OPENINGS? F2 propagation, the kind that we know and love on 20 meters, occurs rarely on 6m. Only at the peak times of the sunspot cycle, a few years out of each eleven, does the band open up for F2. When it does happen, the band becomes a frenzy of activity, and behaves similar to 10 meters. In the last cycle, there were many openings in 1989 through 1991, but that cycle had an unusually long period of peak activity. Openings occur most often in Autumn during the daytime. A few stations have worked 100 or more countries, but they have been patiently working the fleeting openings for many years. The March, 1993 "QST" magazine has an excellent article on 6m propagation that shows a correlation between solar flux and openings.

HOW IS TROPO PROPAGATION ON 6M? The ordinary ground-wave tropo range on six isn't quite as great as on two. There are a number of reasons. Since there are so many other propagation modes on six, people don't try so hard on tropo. Antenna gain often is higher on two. Noise is lower on two. At least in the summer, stations like W3BWU (Pittsburgh), W3IDZ (northern NJ) are easily worked from Maryland with the beam pointing at them,

and can be heard at almost any pointing. They are in the 150-W class.

HOW IS METEOR PROPAGATION? Any area workable by meteors can be worked more easily by Es or aurora. Even though meteor bursts are much strong and longer on six than on two, little use has been made of them. There has been a VERY little meteor-burst packet work on six. W30TC had the first such contact (with W0RPK). W3X0 worked him a few years later.

WHAT ABOUT IONOSCATTER? Some people think it's really meteors, but every weekend morning there are a number of nearly-kilowatt stations working each other on SSB at distances of about 600 - 1000 miles by ionospheric scatter. Sigs are weak, and it takes good beams, height, and power, but it is very reliable. See the old NBS papers by Bailey, Bateman and Kirby, et al. Bateman and Kirby were/are hams. Ross Bateman recently died. Dick Kirby continues as head of ITU in Geneva.

HOW IS AURORA? It is much easier than on 2m. SSB is usually intelligible. Point north about dusk, most commonly in March and October/November. Lots of people in the northern latitudes work this mode when it happens.

WHAT ABOUT SPORATIC E (Es)? You know something about Sporadic E (Es) from TV. When you see interference bars on channels 2, 3,...,6, there is Es DX on six. Having much better antennas, modulation, and receivers, hams work Es when it isn't strong enough to be noticed on the TV. Es is most common in June, but can appear from May to August, and around Christmas, here in Northern latitudes. In addition to the common single-hop range of 500 - 1500 miles, there are quite a few double-and-more hop contacts on six. Now that a number of Europeans are on six, we find that they can be worked from the US east coast each summer. Likewise the Caribbean stations work all over the US. The US west coast can work Hawaii, Alaska, and Mexico. You will also hear some hams on June DXpedition trips to Mexico and the Caribbean; they are easy to work in the late afternoon or early evening, even with 10W and a vertical.

WHAT ABOUT TRANSEQUATORIAL PROPAGATION? - The southern US gets a number of openings to South America by some kind of ionospheric ducted propagation. The stations are generally about equidistant either side of the magnetic equator. Given exceptional luck, an Es opening linked into this mode can make it available to more northern

stations. This mode has bad flutter fading and a touch of the auroral spectrum spreading. This mode also works sometimes on two meters if you use CW and really good gear. It has been worked on 432 MHz.

ANY MOONBOUNCE (EME)? - There have been a few EME contacts on six, but the required antenna size and high background noise makes it out of the reach of most people.

WHAT ABOUT TVI PROBLEMS? There is no doubt about it, six has TVI troubles. You don't find a lot of people on six in channel 2 areas unless cable is widely subscribed-to. VCRs are very prone to six-meter pickup. The common connecting or power cable is a quarter-wave antenna for six. The TV owners have their revenge since the 13th harmonic of the color subcarrier, or something, of TV sets and TV games puts out a birdy at 50.113 MHz to bother the six-meter operators in return. There is also quite a bit of trouble from noisy power distribution lines if they aren't buried (usually bad insulators or poor guy bonding).

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Randall Rhea                                Informix Software, Inc.
Project Manager, MIS Sales/Marketing Systems    uunet!pyramid!infmx!randall
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Date: Fri, 18 Jun 1993 12:58:39 GMT
From: usc!sol.ctr.columbia.edu!news.kei.com!ub!acsu.buffalo.edu!
bowen@network.UCSD.EDU
Subject: callsign server update
To: info-hams@ucsd.edu
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In article <C8susA.L8H@ucdavis.edu> ez006683@othello.ucdavis.edu (Daniel D. Todd) writes:

>Thanks Devon, I have the QRZ CD-Rom but I like having it on-line too!
>Is the new search software compatible with your system so we can do
>wildcard searches, etc.? If not maybe Fred can supply the code, another
>project for your free evenings! :-)

The only implmementation of wild-card searching that I know of requires that the entire database be searched entry by entry. That's great if you have your own little PC but not so great if you're using a multi-user machine donated by a University. The server in its current form is hardly even noticed by our users (which is a good thing). I'm afraid that wild-carding would upset that condition and load up the machine too much.

If anyone knows of a method for doing wild-card searches without a total search of the data, I'd love to hear about it.

Devon

Date: 17 Jun 93 23:55:57 GMT
From: olivea!gossip.pyramid.com!pyramid!infmtx!moose!randall@uunet.uu.net
Subject: HF USED RIG SURVEY
To: info-hams@ucsd.edu

Here is the latest result of my HF used rig survey. These are based on actual sales within the past 3 years. I welcome additional responses.

I have absolutely no affiliation with any ham-radio-related business.

Make Model	How Sold	Price	Extras	Comment
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COBRA				
148	Hamfest Foothl	\$70	None	CB convrtd to 10m
COLLINS				
75S3B/32S1	Usenet	\$500	Spkr,PS	good condn
DRAKE				
TR-3	Retailer	\$300	None	fair condn
TR-5	Internet	\$300	CW flt,PS	good condn
TR-4	Hamfest Foothl	\$275	spkr,mic,PS	fair condn
TR-4	Hamfest Foothl	\$300	spkr,mic,PS	fair condn
R-4C/T-4C	OnAir	\$200	PS,VFO	separate rcvr/xmtr
TR-7	Usenet	\$600	3 flt, PS	
HEATHKIT				
HW-8	Hamfest	\$75	none	no manual,need align
HW-8	Hamfest Evnsvl	\$115	PS	good condn
HW-101	Private	\$125	CW flt,mic,PS,spkr	good condn
SB-101	Usenet	\$110	CW flt	good condn
HAMMERLUND				

HQ-145	Private	\$45	none	good condn
HQ-145	Private	\$85	none	good condn
HQ-170	Hamfest TRW	\$250	spkr	new condn

HENRY/TEMPO

One	Hamfest NC	\$140	none	fair condn
2020	NutsVolts	\$75	none	fair condn

ICOM

IC-551	Private	\$350	FM	6m rig, new condn
IC-720A	Hamfest Lvrnr	\$400	CW flt	near new condn
IC-735	Usenet	\$600	None	good condn
IC-735	Private	\$800	Keyer,spkr,PS	1 yr old, w/paddle
IC-740	Hamfest NH	\$575	PS,CW flt,FM	good condn
IC-740	Dayton	\$650	CW flt	good condn
IC-745	Usenet	\$600	PS,keyer,CW flt	good condn
IC-745	Dayton	\$650	PS,keyer,CW flt	good condn
IC-751	Retailer	\$700	CW flt	new condn
IC-751	Hamfest NC	\$750	PS,CW flt,keypd	w/speech modl
IC-751A	YlloSht	\$850	None	1 yr old
IC-751A	Retailer	\$1150	PS,CW/SSB flt	good condn
IC-765	Usenet	\$1600	3 CW flt	new condn

JOHNSON

ValiantI	Hamfest TRW	\$150	None	fair condn
VikRanger	Hamfest TRW	\$100	None	fair condn

KENWOOD

TS-120S	OnAir	\$300	none	fair condn
TS-120S	Usenet	\$350	PS	fair condn
TS-180S	Usenet	\$450	FC,CW flt	fair condn
TS-430S	Private	\$500	none	good condn
TS-430	Private	\$600	FM bd	good condn
TS-520	OnAir	\$300	None	good condn
TS-520	Private	\$450	Heath amp,mic	good condn
TS-520S	Private	\$300	Heath amp,mic	FC, good condn
TS-520S	Usenet	\$375	CW flt,MFJ tuner	good condn
TS-520SE	YlloSht	\$350	VFO,spkr	
TS-520SE	OnAir	\$500	VFO,spkr,CW flt, mic	
TS-530S	Private	\$550	spkr,desk mic	good condn
R-599A + T	Private	\$175	separate Rcvr/Xmtr	needed repair
TS-820	Hamfest NJ	\$400	none	fair condn
TS-820S	Usenet	\$165	none	needed repair

TS-820S	Usenet	\$575	CW flt	prob with display
TS-830S	Hamfest LA	\$600	none	good condn
TS-830S	Hamfest Cincin	\$600	none	good condn
TS-940SAT	Usenet	\$1150	spkr,desk mic, ant tuner,CW flt	good condn
TS-940SAT	Retailer	\$1450	speech modl,spkr, ant tuner	good condn

RADIO SHACK

HTX-100	Hamfest Foothl	\$150	none	sale in 1991
HTX-100	Retailer	\$159	none	RdoShk tent sale

SWAN

350	Retailer	\$175	PS,spkr,spr tubes	good condn
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TEMPO/HENRY

One	Hamfest NC	\$140	none	fair condn
2020	NutsVolts	\$75	none	fair condn

TEN-TEC

Century 21	OnAir	\$150	None	good condn
Century 21	Usenet	\$165	None	new condn
Corsair 1	Retailer	\$595	CW flt	good condn
Paragon	Private	\$1650	PS,FM,CW flt	new condn
Triton IV	YlloSht	\$200	None	
Triton IV	YlloSht	\$300	PS,CW flt, NL	No mic, good condn
Triton IV	YlloSht	\$300	PS,CW flt, NL,mic	

UNIDEN

HR-2600	Usenet	\$160	None	Good condn
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YAESU

FT101B	Private	\$400	scope,PhP,spkr,FC	Good condn
FT101E	Usenet	\$350	none	
FT101EE	Retailer	\$400	none	w/warranty,fair condn
FT-726R	Usenet	\$600	2m,70cm,Sat	VHF rig
FT-726R	Retailer	\$950	6m,2m,70cm	6m+VHF rig
FT747GX	Retailer	\$550	CW flt	good w/warranty
FT767GX	Usenet	\$850	6m,2m	HF+VHF rig, good cond

ABBREVIATIONS

Amp	Linear amplifier
Bd	Board
FC	Frequency Counter
Flt	Filter
FM	FM unit
Foothl	Foothill hamfest (California)
Lvrmr	Livermore, California
mic	Desk mic
NC	North Carolina
NL	Noise limiter
NutsVolts	Nuts and Volts Periodical
OnAir	Sold through on-the-air contact or packet
PhP	Phone Patch
PS	Power Supply
Sat	Satellite unit
TRW	TRW Swap Meet (Los Angeles CA)
VFO	External VFO
YlloSht	Yellow Sheet Ham Trader Periodical

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Randall Rhea                                Informix Software, Inc.
Project Manager, MIS Sales/Marketing Systems    uunet!pyramid!infmx!randall

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Date: Fri, 18 Jun 1993 12:10:23 GMT
From: usc!sdd.hp.com!apollo.hp.com!hpwin052!hpgmoea!dstock@network.UCSD.EDU
Subject: SB200 power supply problems - help please.
To: info-hams@ucsd.edu

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The calculations of exact breakdown voltages for rectifiers are nice, but don't solve the problem of designing reliable equipment, because the diodes are usually killed by the effects of line transients, not the normal rated line voltage calculated stress.

Some of these transients can have very fast risetimes and kilovolt amplitudes. To reach the secondary of your transformer, they must pass by magnetic or capacitive coupling. The higher voltage members of the 1N400- series are slow, the 1N4007 is very slow. It is a classic mistake for beginners to use 1N4007 rectifiers in switching supplies and to make smoke. These devices are only just good enough for 50-60 Hz use. In the presence of transients, the behaviour of these parts is poor, and not controlled. They can switch late and with a snap. It is amusing to discover that fast diodes are necessary to reduce RFI generated by 50-60 Hz line rectifiers if you are aiming to pass the European radiated

and conducted interference tests, as the slow diodes create transients.

I consider high voltage rectifier stacks to be delicate and very susceptible to damage from transients, even after a large iron transformer, you can still see amazing things. I advise deliberate filtering of the incoming power, and transient control measures in the rectifier banks.

The resistor strings bias each diode during reverse bias time so that each has a controlled minimum amount of margin against breakdown.

During conduction the voltage across each diode is well defined, during the act of switching off, these voltages have to change, accomodating the difference between the transformer and reservoir voltages. Due to differences in junction capacitance and turn-off time this can momentarily be shared unfairly until the resistors have time to change the distribution of charge to balance the voltages. You either need very well matched diodes (leak, C, and switch times) or else you need to swamp these effects with R and C. Remember that some caapacitors can have wide tolerences if intended as HV decouplers, this will spoil the sharing, check them.

The 1N400- series are now folklore parts, God only knows who made most of the ones on sale at rallies. Like the 2N3055 they are standards with easily met specs and could be dies intended to be fancier parts that failed test. I go for higher spec devices properly branded.

I came across a load of "2N3055" that were actually reject die for 50v supply RF power devices. I verified that they met the 2N3055 spec, but with their FT there were few power regulators or audio amplifiers that could use them because of VHF oscillation.

Zener breakdown is a low voltage phenomenom, over a few volts it is usually avalanche breakdown (a different mechanism) both are known to degrade other semiconductor parameters. This shouldn't upset intentional zener/avalanche devices in sensible applications, but if you want a diode to switch reliably as well you are entering territory where many others have had problems.

Hope this helps a bit

David GM4ZNX

Date: 18 Jun 93 13:32:25 GMT
From: news-mail-gateway@ucsd.edu
Subject: Summary: Making home Ham Friendly
To: info-hams@ucsd.edu

Hello,

A few weeks ago I posted the following:

My friend is thinking about having a house built for him and he was wondering if you all could offer some suggestions in making his house "ham freindly". For instance, having coax run in the walls to his shack or a rotor mast port in the roof.

I wish to thank the following for their input:

Bob Smits, VE7EMD
Macy Hallock
Marv, KD4EGV
David GM4ZNX
Tom Bodoh
Gary Coffman KE4ZV
Mat Maessen N2NJZ
Scott Sminkey, W01G

The following is a list of responses:

1. Run four pair twisted pair wire for all telephones, home run to a central point for all jacks. Use Level 4 wire (less prone to RFI and xtalk). You can use Shielded Twisted Pair, but it shouldn't be necessary.
2. Run 2" PVC conduit from the roof, to the prospective shack location. Stub the conduit thru the roof, using a vent skirt, put a 180" elbow on the top. Do not glue on the elbow, though. This run should have no more than two 90" bends in it. Use 45" bends, if possible.
3. Prepare a support area on the roof structure for a roof tripod, near the conduit stub. Even if you have use for a tower, this is a good idea. Its hard to have too many places to put an antenna.
4. Install Double Shielded RG-59 video cable for the TV runs. Belden 8232 is a good choice.
5. Arrange for the phone company to install the network interface inside the house, with the phone line completely buried and not exposed on the side of the house. Better security and looks nice.

6. Prepare for a grounding system while the house is under construction. Never, ever skimp on grounding....

7. If you have a basement, run conduit from the shack into the basement. Useful for standby power (keep the 12v battery in the basement) and control runs.

8. Wire in remote radion/ music speaker lines. Maybe even prewire some control station stuff.

(Don't go for a cheap NuTone music/intercom. There are other solutions that are decent...)

9. Get a professional grade security system installed.

(That's what F.M. Systems does, ask for advice when you are ready)

From: macy@fmsys.fmsystem.ncoast.org (Macy Hallock)

Here are my suggestions:

1. Coax or hardline in walls to antennas.
2. Separate subpanel for all electrical outlets in shack.
3. Additional telephone (multipair cable) pulled to shack.
4. Cable tv drop for shack.
5. Driven ground rod in shack area before concrete floor is poured.
6. Cabling installed in wall for rooftop weather station -even if the station is added later.

Marv, KD4EGV

For what it's worth, here's what I did when I added a ham shack (closed in a car port) last year.

Ran a 220 V feed to the new room, and installed a sub breaker panel.

Added electrical outlets everywhere I could conceivably want them, including a 220 outlet for a linear. About 8 of the outlets are switched by a light switch near the door, to control desk lights, etc.

I prewired a number of telephone jacks - dual ones for the two phone lines (for the voice and computer lines), at two locations - one at the computer desk, one near the ham equipment for the phone and patch.

I also added four runs of RG-6 + extra cable through the wall for the satellite receiver, plus extra shielded audio cables, so that I can feed the stereo upstairs with satellite audio.

As far as the ham antenna cables go, I would not install the cables within the wall, as the cables normally get replaced and/or changed periodically. I made a plywood door in the ceiling of the shack, put coax feedthrough connectors in it, and feed the cables to the outside between the rafters. The "door" is directly above the ham gear. (I figure on up to fifteen separate antenna feeds, all RG-8 or better)

All in all, I recommend adding extra electrical outlets wherever you could possibly want them. Having a separate sub-panel for the ham shack will also make it easier to switch in a backup generator, but make absolutely sure that if this is done, that there is absolutely no way of back energizing the power company's lines with the generator.

If you absolutely must install antenna cables in walls, use conduits, so that you can change them in the future. (Sooner or later, you'll want to.) Provide for antenna cable on every band you may wish to operate on, even if you don't install 'em right away. For me, for example, that makes a total of 4 VHF feedlines, 2 UHF, 8 HF and 2 spares. YMMV.

Plot it all out on paper, and do it several times. There's always something you forgot.

73, Bob Smits, VE7EMD

Robert Smits
VE7EMD
Ladysmith B.C.

e-mail: emd@ham.almanac.bc.ca

There is *no* idiotproof filter.
Idiots are proof against anything!
- Richard Chycoski, VE7CVS

I read the reply about lots of circuits, 220v 110v, bench lamps off of a light switch by door with interest as it breaks my number one safety rule.

Should you ever have an accident, it is likely that the people who would have to try to save you will be unfamiliar with your shack, and may never work out which circuit is biting you.

I feel happier in the vicinity of a large switch in a fully insulated plastic box in easy reach of someone entering the shack, with a bright red arrow and the words "safety switch" pointing to it, which kills all power in the shack.

It has never happened to me, so far, and I've designed power supplies as part of my job, BUT should it happen I want the dice loaded to favour me.

For multiple circuits, you'd need a set of ganged switches. It is also a good way to shut down without bothering to find everything that is turned on.

Hope you never need this,

Cheers

David GM4ZNX (everything is on 240v in this country)

I would also suggest ground fault interrupt protection...

+++++
+ Tom Bodoh - Sr. systems software engineer
+
+ USGS/EROS Data Center, Sioux Falls, SD, USA 57198 (605) 594-6830 +
+ Internet; bodoh@dgg.cr.usgs.gov (152.61.192.66)
+
+ "Welcome back my friends to the show that never ends!" EL&P
+
+++++

The only problem with that is that stray RF currents may trigger the GFI system. Just simply following good grounding techniques should be enough.

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Mat Maessen N2NJZ | maessm@rpi.edu

First things first, start with a good ground system. A Ufer ground system should be installed in the poured footings, and radials should be pre-installed from the tower pads. Ground window entrance bulkhead panels should be installed where cable runs will enter the house. This should all be integrated with the power and telephone ground system to prevent later ground loops. This is really cheap during construction, and very hard to do right later.

You never pre-wire with enough cables, so conduits with pull ropes should be installed to all critical areas so that additional cabling can be easily added later. As a minimum, pre-install in the walls two 50 ohm ethernet/ham

cables and two 75 ohm CATV cables to plates in each room, Also pull multiple telephone cables and enough power outlets. Don't daisy chain anything. Bring all phone runs back to a distribution panel, and all CATV and ethernet runs to other distribution panels. This will allow reconfiguration of the networks at any future date. The radio room should have it's own cable closet with conduits, punch blocks, and patch panels.

Use 6 inch walls rather than 4 inch. This will allow larger cable conduits, and more insulation. For the radio room, there should be computer flooring and Sonoguard sound treatment. A suspended room inside a room would be best, but just the sound treatment will help. Shop air should be provided from a central source, along with a central vacuum system to please the XYL. The radio room should be on it's own power distribution subpanel, ideally with full emergency backup and auto switching. Insure plenty of air flow. A high volume, low velocity, air handling system is best. It will allow equipment cooling without contributing noise. Avoid metal duct work, use rigid foam panels for all ducts. This will prevent unwanted resonances in the air system.

If the neighborhood zoning and covenants allow, freestanding towers are superior to house mounted antenna masts. If the zoning and covenants don't allow, consider building in a different location. Naturally, the higher the site the better for most ham operations. At least two, and preferably three, six inch underground cable conduits should be installed from each tower base to the ground window. These should be fitted with non-rotting pull ropes and should terminate in weatherproof boxes. Route high level RF through one conduit, low level RF through another, and control wiring through the third.

All non-ham electrical equipment should be scrutinized for possible RFI generation. This includes light dimmers, HVAC controllers, security systems, major appliances, etc. For more ideas, consult the NAB Handbook.

Gary

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Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				

Tom,

My wife and I had a house built about a year ago and I had a few ham things done that really worked out great. Here you go...

1. Consider where you might put a tower up, where coax from a dipole would

fall to the ground, etc. Run buried 4-inch diameter PVC through the basement wall to that point. Use a combination of 22 1/2 or 45 degree bend sections on the outside end to take it out of the ground and bend it over so the opening is facing down (to keep rain out). A plug made of rotproof wood (I used scrap cedar decking material) with holes drilled in it for coax has kept mice from using the PVC to get into the house! This buried PVC has worked out really great to keep from having to string coax thru the air or lying on the lawn.

2. Run PVC inside one of your walls from your basement to your attic. This will give you an easy way to run feedline to any antennas in your attic down to where the radios are. Of course, you have to think about where the shack might be to pick the wall(s) you do this with. Even if you plan on a shack in some place other than the basement, run the PVC from basement to attic in case you change your mind later. If it's an upstairs room, you could attach a PVC tee section to bring it out into the room or just make a note about where the PVC is and punch a hole in the wall later to get at it. Note that having open PVC from basement to attic may be a code violation in some areas because it creates a raceway that can feed a fire. I use a PVC pipe like this to bring feedline from my discone scanner antenna down to the shack in the basement. I think the PVC pipe method is much better than simply putting coax in the walls: you can choose coax type later and replace it at any time.

3. If you've selected a location for the ham shack, have extra wiring put it while you're building (much cheaper than doing it later). Go all out with this because the extra expense isn't much! Put in a 20 or 30 amp 240V outlet for the "big rig" you might get later. Put in a couple of good (20 amp) 120V circuits just for that room. Put the overhead light socket on a different circuit (probably one in common with other room), so if you blow a breaker, you'll still be able to see what you're doing! Think about using a subpanel in or just outside the room with a master switch for safety purposes.

4. If you're thinking about a tower, now is the time to think hard! It will cost much less now than later to have heavy equipment dig the holes for the base and anchor footings and get the base and footings poured with whatever rods, pins, rebar frames, base, etc. you'll need. Just think: the equipment and ready-mix concrete trucks will be there already for the big part of the project (foundation, basement walls and floor), so tower stuff is peanuts in terms of extra time and materials. You will need to select a tower type and have a some idea about height to choose dimensions and materials like anchor rods and base plates. I planned for a Rohn 25G guyed installation of 50 to 70 feet.

5. If you're going with a basement shack like I did, drive in a ground rod or two where the room will be before the basement floor is poured, and voila, you've got a ground rod as close as possible to your rigs!

That's all I can think of right now...

73 de Scott W01G

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Scott Sminkey, W01G

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(Opinions, comments, etc. are mine, not Xyplex's...)

Date: Fri, 18 Jun 93 11:11:40 GMT

From: pipex!sunic!aun.uninett.no!trane.uninett.no!alf.uib.no!due!

yngve@uunet.uu.net

Subject: Wanted:Freq.mod. for YAESU 411E

To: info-hams@ucsd.edu

I'll give it another try with the same questions. A group of Norwegian
paraglider enthusiasts are in need of freq.mods for their hams.

Does anybody out there know how to make the handheld transeiver YAESY 411E
transmit in its entire frequency band? From app. 130-174 Mhz. If you
know about this mod, please answer to this newsgroup or directly

to:

yngve@ii.uib.no

-Yngve Dyvik , Department of Informatics - University of Bergen, Norway

Date: Fri, 18 Jun 1993 13:11:45 GMT

From: pravda.sdsc.edu!news.cerf.net!usc!howland.reston.ans.net!darwin.sura.net!

sgiblab!sgigate!odin!chuck.dallas.sgi.com!adams@network.UCSD.EDU

To: info-hams@ucsd.edu

References <93168.103036WKOEHLE@ESOC.BITNET>,

<1993Jun17.184333.3458@leland.Stanford.EDU>, <C8sG43.GDI@cbnewsm.cb.att.com>

Subject : Re: Field Day, what are others doing?

the Dinasaour Valley DX Society will be doing QRP from STX again this
year. NOTE: named several years ago, so no relation to the new movie
showing at theatres near you. ;-)

going from third to first.....

yes kids, be sure to memorize all the ARRL sections before you touch
that key or mike..... i don't wanna repeat STX STX STX over and
over and over..... qsl es gl dit dit

gl es cu agn de k5fo/3 dit dit

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"This is UNIX(tm)! I can do this." - Lex in Jurassic Park in front of
SGI workstation.

Chuck Adams, K5FO - CW spoken here....70+ wpm
adams@sgi.com

End of Info-Hams Digest V93 #747
